

JUN 19 1913

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 7976

Port of Belfast Date of First Survey 19th April Date of Last Survey 4th June 1913 No. of Visits 12
 No. in Reg. Book on the Iron or Steel H. M. S. "Wendflower" Port belonging to By whom Rockman Clark & Coys L^d When built 1918
 Built at Belfast Owners' Address The Admiralty
 Yard No. 403 Electric Light Installation fitted by The Sunderland Forge Coy L^d When fitted 1918

DESCRIPTION OF DYNAMO, ENGINE, ETC.

TWO Combined Steam-driven Generating Sets each consisting of enclosed high speed steam engine direct coupled to compound wound multipolar dynamo.

Capacity of Dynamo each 250 Amperes at 105 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed In engine room Whether single or double wire system is used double wire

Position of Main Switch Board In engine room having switches to groups 8 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each

1. On Navigating Bridge. 16 Switches for navigating lights.

If fuses are fitted on main switch board to the cables of main circuit Yes and on each auxiliary switch board to the cables of auxiliary circuits Yes and at each position where a cable is branched or reduced in size Yes and to each lamp circuit Yes

If vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes

Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 100 per cent over the normal current

Are all fuses fitted in easily accessible positions Yes Are the fuses of standard dimensions Yes If wire fuses are used

are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit Yes

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 245 arranged in the following groups:—

A. Equal to 24	lights each of	16	candle power requiring a total current of	14.4	Amperes
B. " " 98	" " "	16	" " " " " "	58.8	"
B. C. " " 72	lights each of	16	candle power requiring a total current of	43.2	Amperes
D. Searchlight Projector	" " "	-	" " " " " "	10.0	"
C. Radiators	lights each of	-	candle power requiring a total current of	78.0	Amperes
F. Equal to 69	lights each of	16	candle power " " " "	41.4	Amperes
D. G. Wireless	lights each of	-	candle power requiring a total current of	70.0	"
H. " " " "	" " " "	-	" " " " " "	70.0	Amperes
E. " " " "	lights each of	-	candle power requiring a total current of	-	-
2 Mast head lights	1 lamp each of	16	candle power requiring a total current of	1.2	Amperes
2 Side lights	1 lamp each of	32 c/p & 1 of 16	candle power requiring a total current of	1.8	Amperes
Cargo lights of	-	-	candle power, whether incandescent or arc lights	-	-

If arc lights, what protection is provided against fire, sparks, &c. Yes

Where are the switches controlling the masthead and side lights placed Navigating Bridge.

DESCRIPTION OF CABLES.

Main cable carrying 250 Amperes, comprised of 37 wires, each 0.112" S.W.G. diameter, 0.350 square inches total sectional area
 Branch cables carrying 70 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, 0.0937 square inches total sectional area
 Branch cables carrying 10 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, 0.01246 square inches total sectional area
 Leads to lamps carrying 3.0 Amperes, comprised of 1 wires, each 17 S.W.G. diameter, 0.0024 square inches total sectional area
 Cargo light cables carrying - Amperes, comprised of - wires, each - S.W.G. diameter, - square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

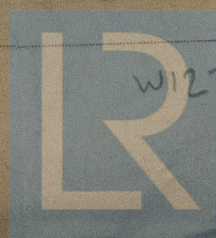
Cables insulated with pure and vulcanised india rubber, taped and the whole vulcanised together and braided and lead-covered.

Joints in cables, how made, insulated, and protected No joints.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage

Are there any joints in or branches from the cable leading from dynamo to main switch board No.

How are the cables led through the ship, and how protected Lead-covered cables secured to perforated steel cable plates by brass saddles fastened with brass screws and nuts.



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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible **Yes.**

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture **Lead-covered.**

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat **Lead-covered.**

What special protection has been provided for the cables near boiler casings **"**

What special protection has been provided for the cables in engine room **"**

How are cables carried through beams **Through holes bushed with lead through bulkheads, &c. through heavy brass w.t. glands.**

How are cables carried through decks **Through deck tubes and glands made watertight. ✓**

Are any cables run through coal bunkers **No** or cargo spaces **No** or spaces which may be used for carrying cargo, stores, or baggage **Yes**

If so, how are they protected **Lead-covered and protected by iron plates where necessary.**

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage **Yes.**

If so, how are the lamp fittings and cable terminals specially protected **Glass well jars and strong brass guards.**

Where are the main switches and fuses for these lights fitted **In engine room.**

If in the spaces, how are they specially protected **"**

Are any switches or fuses fitted in bunkers **"**

Cargo light cables, whether portable or permanently fixed **None** How fixed **None**

In vessels fitted on the single wire system, is the dynamo terminal fixed to the hull of vessel **----**

How are the returns from the lamps connected to the hull **----**

Are all the joints with the hull in accessible positions **----**

Is the installation supplied with a voltmeter **2 voltmeters**, and with an amperemeter **2 amperemeters**, fixed **in engine room.**

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas **----**

Are any switches, fuses, or joints of cables fitted in the pump room or companion **----**

How are the lamps specially protected in places liable to the accumulation of vapour or gas **----**

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than **1000** megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

P. & THE SUNDERLAND FORGE & ENGINEERING CO. LTD.

Electrical Engineers

Date **12/6/18.**

COMPASSES.

Distance between dynamo or electric motors and standard compass **84 feet.**

Distance between dynamo or electric motors and steering compass **85 feet.**

The nearest cables to the compasses are as follows:—

Cable carrying	Amperes	feet from standard compass	feet from steering compass
15	6	8	8
0.3	3	3	3
—	—	—	—

Have the compasses been adjusted with and without the electric installation at work at full power **Yes.**

The maximum deviation due to electric currents, etc., was found to be **Nib** degrees on **all** course in the case of the standard compass and **Nib** degrees on **all** course in the case of the steering compass.

WORKMAN, CLARK & CO., LIMITED.

Builder's Signature.

Date

GENERAL REMARKS.

This installation is of good description, and has been fitted in accordance with the Rules, and Admiralty Specification and instructions.

It is submitted that this vessel is eligible for THE RECORD. Elec. light.

19/6/18.

R. F. Bennett

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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